SYSTEM FOR GUIDING A MEDICAL INSTRUMENT IN A PATIENT BODY

Abstract of the disclosure:

The present invention relates to a system for guiding a medical instrument to be guided in a patient body, ultrasound acquisition means using an ultrasound probe for acquiring a 3D ultrasound data set and X-ray acquisition means for acquiring a 2D X-Ray image which comprises a projection of said medical instrument. The system in accordance with the invention further comprises means for localizing said ultrasound probe within a referential of said X-ray acquisition means, means for providing a first localization of said medical instrument within a referential of the ultrasound acquisition means, means for converting said first ultrasound localization into a first X-Ray localization within the referential of said X-Ray acquisition means, means for providing a second X-Ray localization of the projection of said medical instrument in the two-dimensional X-Ray image, means for mapping said 3D ultrasound data set with said 2D X-Ray image in accordance with a transformation which minimizes a distance between a projection of said first X-Ray localization on said 2D X-Ray image and said second X-Ray localization and means for generating and displaying a bi-modal representation of said medical instrument in which said 2D X-Ray image and said mapped 3D ultrasound data are combined..